

Instructional Design

**Tech-N-Effect: Group Project**

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## Analysis Phase

Mr. Steve Kaufman is a senior instructional designer for the Design and Development Services Department (DDS) at the University of Akron. The DDS team directly works with faculty interested in transitioning traditional face-to-face courses into an online or hybrid teaching environment. Through their extensive work with faculty they have observed a gap in the awareness of DDS services on campus as well as consistency in faculty preparation for the transition of course materials into an online or hybrid learning environment. The DDS department is a part of the Information Technologies Division at the University and charged with supporting, educating and training faculty on instructional technologies, multimedia and online course design. The DDS department consists of nine staff members including four instructional designers. Mr. Kaufman will also serve as the project's subject matter expert (SME).

Team *Tech-N-Effect* is a group of graduate level students who chose to work on the DDS instructional design problem, based on long term career goals and experience of team members. The team members represent both K-12 and the higher education work environments and include Amelia Capotosta, Janel Koellner, Cindy Mako Robinson, Vince Velazquez and Jen Washko.

Instructional design is a systematic process that makes learning more efficient, effective and less difficult. Because of the scope and flexibility of instructional design, the concept can be applied to business and training situations in addition to the classroom environment. To ground and shape the DDS instructional design problem, team *Tech-N-Effect* will use the ADDIE model. ADDIE stands for Analysis, Design, Development, Implementation and Evaluation. The ADDIE model appears to follow a linear progression, with a clear structure and defined stages, while also encouraging instructional designers to evaluate and revisit stages on an ongoing basis.

**Learning problem**

The learning problem, as identified by the SME, is a lack of information about the services and support the DDS department can provide as well as consistency in knowledge and experience in the development of an online course. Specifically, not all faculty have the background or expertise to effectively transfer a current lecture style course into an online and/or hybrid course format. In addition the vast amount of technology available for teaching and learning in an online environment can be overwhelming and time consuming for faculty to learn and develop all the necessary skills needed.

**Learning goal**

The learning goal for this project is to develop a single learning module for faculty interested in developing an online course. Supporting the learning goal are the following performance objectives identified by team *Tech-N-Effect* as key to the design, development and implement of the project. The learner will be able to: 1. Engage in the development of an online course with a DDS, instructional designer; 2. Assess technology platforms available and list the platforms they feel comfortable learning and 3. Organize current course content in alignment with Quality Matters standards in order begin the design and implementation phases.

**Learner analysis**

The learners this project will target are faculty and instructors that teach at the University of Akron's main campus as well as the four instructional designers in the DDS department. As of December 2013, the University had 781 full-time faculty members, representing a diverse background, experience and content working on the main campus. Most notably, the faculty are subject matter experts in their chosen field. The faculty represent eight academic colleges and

teach in over 300 undergraduate and graduate programs. 82% of full-time faculty have a terminal degree and the campus enrollment is over 27,000 students. In addition to full-time faculty the University employs part-time faculty who may also choose to teach a course online or in a hybrid fashion. All full-time faculty are members of the AAUP and teach between three and four courses in a two semester, nine month contract. The University uses Desire2Learn's online learning platform, Springboard, as the approved campus teaching and learning system. Each semester Springboard is loaded with all courses according to the instructors name and then faculty decide if they will activate the course. When faculty decide to integrate technology and online learning into their course, they must submit a curriculum proposal if the course format will be more than 30% online.

In addition to the faculty, team *Tech-N-Effect* also needs to take into consideration the four instructional designers who work in the DDS department. The four designers bring various levels and years of work experience to the learning situation. The designers work directly with the faculty and need to have a module that can help support their work with the faculty and can be easily updated in the future.

### **Needs analysis**

As team *Tech-N-Effect* began to analyze the problem and learners, we decided the most effective and efficient approach to the needs analysis would be done through interviews with our SME and faculty who have utilized the services of the DDS department. The decision to use interviews as the foundation for the needs analysis was driven by the size and complexity of the audience and the timeframe for the project. According to Morrison et al (2013) individual interviews with an SME is the most often used method in a task analysis. This approach can also

be viewed as qualitative research which is interested in understanding a social human problem. The researcher is the tool or mechanism through which data is collected. Through the use of interviews, and observations the interviewer becomes embedded in the stories and the reality being created.

Once the team decided on the needs analysis approach, interviews with Mr. Kaufman, the SME assigned to the project, were scheduled. The in-person meetings helped *Tech-N-Effect* gather qualitative data that provided a richer understanding of the purpose, mission and services offered by the DDS department. In addition the data provided firsthand knowledge of the instructional designers who work with faculty on a daily basis. Specific questions were developed for the interviews in order to use the SME's time effectively and gain the most information. The first question focused on how faculty can learn to develop an online class through DDS and the response was, "faculty have three ways to learn how to develop an online course through DDS. One option is a two-week online, self-paced course that culminates with the "Quality Matters" designation. The second option is a 40-hour, in-person workshop that lasts for a semester and the third option is one-on-one consultations, which is the preferred method. As of March 2014, over 150 faculty have completed the online training. The SMA also commented, "sometimes faculty will complete the Quality Matters online module and then participate in the semester long in-person course...these faculty are better prepared". Based on the different types of training offered by DDS, a follow-up question focused on how the department gauges the effectiveness of these programs. The SME stated, "our office conducts a continuous improvement survey for the faculty who participate in the semester long course. In spring 2014 the course started with 22 participants and as of right now we have lost 1/3 of the participants. This is the third time we have offered this course and this is the highest retention

rate so far”. The SME stated that 150 faculty have completed the training programs.

Consequently, the SME also shared, “there are currently 160 new curriculum proposal from faculty who are in the initial steps of developing an online course. While faculty are not required to use the services of DDS to develop an online course, they are required to submit a curriculum proposal. The curriculum proposal system will enable DDS to monitor the types of courses that faculty are developing and reach out to those that have not connected with the DDS department. When asked what data exists regarding faculty awareness of available services, the SME shared, “a formal survey has not been distributed by DDS however through our conversations with faculty there are a number of key points that impact a faculty members decision to teach an online class and they include, a misconception on what a good online course means, concerns about ownership of content and academic freedom especially if they leave campus, a lack of consensus on the direction of online learning and faculty support and incentives for teaching online”. Lastly, a discussion of the outreach efforts currently underway by DDS includes meetings with Dean’s, Department Chairs and the Provost to discuss ways in which the department can support the faculty. We also rely on faculty who have participated and successfully transitioned their courses. Some colleges and departments are more active than others. For example, Summit College, College of Education, College of Business and the School of Nursing are starting to take an interest in online learning.

As team *Tech-N-Effect* evaluated the qualitative data it became apparent that some environmental factors could be impacting the motivation to teach online. To dig deeper into the reasons why faculty may not be interested in teaching online or are aware of the services offered by DDS, the team started to develop a survey that would be administered to faculty. At the same time, Steve shared preliminary results of a faculty sponsored survey on faculty perceptions of

online teaching. The data has not been formally released however preliminary results highlighted that 59% of respondents are apprehensive to teach online and 24% are supportive of teaching online. Consequently, 79% of total respondents indicated they would teach online to help their students.

### **Design Phase**

The design phase for the project commenced with the task analysis necessary to determine the knowledge, skills and attitudes to be contained in the instruction. The task analysis consisted of an interview with our team's subject matter expert, Mr. Kaufman. The interview technique is the technique most preferred and often used by designers. (Morrison, Ross, Kalman, & Kemp, 2103) This interview served to provide the information the team would need to design the instruction that would best meet the needs of both the learner and the requestor of the project. According to Mr. Kaufman, the University of Akron Design and Development Services (DDS) team needed a way to both encourage and prepare faculty members to transition their face-to-face courses to online courses. It was determined that faculty members needed to know what information and/or content they needed to gather and prepare prior to meeting with DDS to take a course online. Additionally, as indicated in prior analysis by DDS, some faculty members were hesitant to move current face-to-face courses to an online or hybrid format. Therefore, the content analysis resulted in the following:

Knowledge needs:

1. How to contact DDS
2. Development of objectives

3. Development of a course syllabus
4. Identify assessment and evaluation tools suitable for online courses

Skill needs:

1. Utilize computer to access learning management system and load content

Attitude needs:

1. Confidence to transition from face-to-face instruction to online instruction

Because our cohort of learners is exclusively University of Akron faculty and instructors, the learning theory that instruction was designed around is adult learning theory, or andragogy. These learners all possess graduate or terminal degrees, and utilize technology in their day-to-day interactions with students and the University. Adult learning theory suggests that instruction be designed to build upon the adult learner's previous knowledge base. ("Become familiar with Adult Learning Theory and the six principles of adult learning," n.d.) Our adult learners have already designed their courses to be successful in the face-to-face realm, and now need the knowledge, skills and attitudes necessary to modify their course content and assessments to meet the needs of the online learning community.

To meet the content identified in the task analysis, the team devised the following learning objectives:

After viewing the module, the learner will:

Successfully transform learning objectives for online teaching events

Create a syllabus for online learning

Modify course assessment to accommodate online evaluation tools



Upload instructional materials to the learning management system

Discover new technologies for online teaching

The team then developed an instructional module to achieve the above-referenced objectives. Each objective is addressed in one or more “slides” of a Prezi presentation. The Prezi is designed to allow the learner to choose the depth of information that he/she needs to meet the objective. This is necessary due to the varying background knowledge of each learner. We have a very educated, but diverse, learner population. It was important to remember that, while faculty members are often seen as professional educators, most are truly subject matter experts, with possibly little or no education on teaching and learning. Information on writing objectives and development of a syllabus is provided, but could be glossed over by faculty members that have a firm grasp of the content. Because changing the attitude of the faculty members, and increasing their confidence regarding the transition to online instruction, was one of the most important factors determined by DDS, it was imperative that our learning module is easily accessed, short, and simple to follow. Content is presented in the order the objectives are listed for the learner, making it easy for the learner to anticipate and find the desired information. Because DDS will be meeting with faculty to construct the online course, it was not necessary to include detailed process information regarding complete course construction, but rather the pieces necessary for preparation for the initial meeting with DDS.

## Development Phase

After much deliberation about which platform would work best for our project, team *Tech-N-Effect* decided to use Prezi as our primary source of technology. We had briefly discussed other possibilities such as creating a folder on GoogleDocs and putting together a wiki, and ultimately concluded that a Prezi presentation would provide the learners with flexibility and ease of access in addition to providing the DDS department with a module that they could assume ownership of, easily update and adjust to their branding criteria.

By using Prezi, the link would be easily shared and accessible to all users with internet access. It allows accessibility and ease of use because no particular software or subscription is required. The user can navigate the presentation at their own pace and may choose to delve into additional resources as needed. Prezi offered the availability of creating a resource that potential “clients” of the DDS team could feel comfortable browsing regardless of their familiarity with online courses and is also supported through DDS multimedia services.

The path of the Prezi was created intentionally. The beginning provides the name and contact information of the office that will ultimately house the module and continues through the objectives which help guide faculty in the transition to online courses from more traditional methods. We attempted to continue the path in an order that follows the design of a course as well as major concerns that have proven to be a negating factor in using these provided services. With special attention to syllabi, objectives and how to seamlessly use technology to present already created resources, the presentation should allow the user to go step-by-step in the thought process of recreating their course.

## **Instructional Resources**

Each *Tech-N-Effect* team member was charged with developing specific sections of content of the Prezi. Each member researched, created and ultimately devised the information in the most appropriate presentation manner for their content.

The Quality Matters information and link is provided to show educators that standards of online courses exist, as well reinforce the University's support and training based on the standards. It was important to emphasize the importance and role of different syllabi based on the delivery design of the course, face-to-face class or online. Special attention was given to defining and outlining the importance of SMART goals and making sure the syllabus is clear, specific and relates to the achieving the goals. A link to a website for faculty to review SMAT goals is provided within the Prezi, as a tool for creating and transitioning their syllabus for the online course. Other resources included within the Prezi are Springboard tutorials, research behind the success and popularity of online courses, various types of technology that can be used to create content and "secrets of the trade" by faculty who successfully transitioned their courses and worked with the DDS department.

Additional resources include videos created by members of the group to show available technologies as well as platforms to upload already-created instructional material. These short tutorials offer an explanation as well as visual guide on how technology can be utilized in the courses.

The final product serves as a single learning module for the intended audience and aides the DDS department in their work with faculty. The goal was to provide a user-friendly and positive introduction to the services that the DDS department offers to the campus community.

## **Assessment Plan**

As the Prezi was developed, each group member took responsibility for his/her assigned content. The group collaborated on each of these sections to ensure fullest accuracy and effectiveness. Through email, GoogleDocs and Blackboard Collaborate, our group offered constructive criticism to the project. We made sure that the information was given in a user-friendly and informative method. Because we knew that the knowledge level of the potential faculty who would be utilizing the Design and Development Services varied, the presentation needed to be delivered in a similar manner. Based on personal and group assessments, changes were made to the Prezi and the content in order to best fulfill the needs of the faculty.

In order to determine the effectiveness of the design and the materials provided, a survey and Prezi link were sent to colleagues in the field of education. The feedback provided by these volunteers allowed the team to edit the Prezi in order to ensure its fullest potential. The data collected allowed us to determine necessary changes, as well as additions that should be made. Upon implementation of the project, our SME will provide our team with further suggestions to edit this working document that should prove to be helpful to any professor who is interested in transitioning at least partially to an online course.

## **Implementation Phase**

*Tech-N-Effect* was tasked by DDS to create a single instructional module that would help the designers' better assist faculty who are considering a move to the online teaching environment.

One of the goals communicated through the task analysis was a user friendly and visually appealing module that would capture the identified learners (University of Akron faculty), in

gathering information and preparing for the transition of their course. For the implementation of our project we reviewed the data collected through the task analysis, keeping in mind the target audience, and their willingness to transition to online learning if the process was simple and keep in line with the expected quality of the their course. We felt that we had two target audiences that we had to take into consideration while working on implementation and timeline of our project. We first had to take into consideration the nine four instructional designers who work in the design and development department while still working on a site that would benefit all faculty at the University. This information provided the foundation for our work and the decisions we made regarding type and content of the media. Communication documents were shared using GoogleDoc and a formative survey was designed and administered to DDS staff, faculty and K-12 educators to gather information about the module and their current usage of online tools to facilitate online learning.

## **Timeline**

Using the week of May 5<sup>th</sup> as our project launch date we created a reserve/backward planning timeline for the team. We took into account an eight week timeframe that did not include spring break, to which we still met. Prior to working on our implementation plan we met every Monday on a synchronous session to monitor our progress and make any necessary changes to our plan. The timeline that guided our work is as follows:

Week 8: The analysis phase started with interviews with the DDS department and while also gathering campus information better understand the environment and research on possible design options in order to launch a successful module.

Week 9: The week of the design phase required us to begin drafting our module and to select the platform we would utilize to present the material. Once we worked through this phase we recommended using the Prezi platform. The team felt the platform would be a good match with our well educated target audience.

Week 10/11: The development phase caused us to present a workable prototype with the required presentation on the different types of tools that educators can incorporate to develop and deliver a quality online class.

Week 12: We began the implementation phase by working within Prezi to determine layout, content and planning for unexpected accessibility and workability issues the module might encounter. Through our work, we discovered challenges with content layering which required time and research in order to find alternative options.

### **Recommendation for Changes**

*Tech-N-Effect* felt that a Prezi format would be beneficial to the current DDS staff because they have experience with Prezi and online training and teaching. The team also felt that the faculty needed more of a refresher and how-to for them to access as opposed to an online training site and Prezi provides everything we needed.

### **Evaluation Phase**

Throughout our project the team has completed various types of assessments and data collection. Two group members met face-to-face with our SME to determine needs and assess how well our progress was meeting those needs. We also spoke with various people in the

department we are working with to see what else was needed in the module. As a team, we met online weekly to share our progress and discuss any concerns or problems we were having. We also met face-to-face near the beginning of the implementation phase to make sure our individual pieces were coming together and to discuss changes, additions and challenges.

Upon completion of our online course module, we entered the evaluation phase and developed a plan to collect feedback in order to make sure we met our instructional objectives. The first step was to identify key stakeholders that could provide formative feedback. Based on our objectives and learners, the team decided to solicit feedback from a diverse group of educators. We targeted individuals who are in some way involved in the education field. We purposely decided to send the evaluation survey to educators at all levels: primary, middle, secondary, and higher education. By doing this, we felt we were receiving a more authentic feedback because we would be reaching teachers and faculty at with different technological backgrounds and experiences.

As a group, we created a formative evaluation using Google Surveys. In order to meet our target audience, each team member agreed to send the survey to at least ten colleagues or friends in the educational field, in the hope that, at a minimum, we would receive a response from 40% of these individuals, giving us enough data to evaluate our work.

### **Formative Evaluation**

To ensure the data we collected was quality and valuable, we worked together to develop questions that would give us quality feedback on the module we created. The team wanted to make sure the survey was not intimidating to our sample, brief and comprehensive in order to collect data that was clear, honest and usable. The survey contained one demographic question

that will allow us to know more about the evaluator (what level of education they have experience working with), four open ended questions for evaluators to give honest and specific feedback, three yes/no questions to assess if needs were met in certain areas, and two scaled-rating question, allowing us to collect specific levels of feelings. Overall, we received feedback from twenty evaluators ranging in experience in education.

After viewing survey results, we found our module had a number of strengths, and a few minor weaknesses. Overall, the feedback was very positive. Evaluators with a comfort level 4 and 5 (5 being expert) in designing an online course felt the presentation held their attention, was very easy to navigate, and made them more prepared to develop an online course. They felt the most beneficial part of the presentation was the information they learned about creating or modifying learning objectives for an online course. This group also felt they would like to see screen shots of existing online courses and current online instructors' testimonials.

Evaluators with a comfort level between 1 and 3 in designing an online course, felt the presentation held their attention, was easy to navigate, and they felt their preparedness level was a 3 (on a 1-3 scale) 3 being the highest. Overall, this group felt the most beneficial parts were the video on transferring instructional materials and creating SMART learning objectives. Some individuals in this group also seemed to feel a little overwhelmed with navigating Prezi. They wanted some direction on how to click on links, and thought having the videos automatically play would be better than having to search on the content to have them play.

### **Recommendations for Changes**

Based on survey feedback, the team felt there were a few minor changes we should make to the module before the final implementation. The first change was to add directional



instructions for the hyperlinks that better directs the reader to “click here”. This change will make sure the viewers are aware of the links. The second minor change was to find a way to make the videos play automatically. Our original thought was to let the learner choose to play the video if they wanted more information. However, after reviewing the feedback we felt it would be more beneficial to have the videos automatically play, and the learner can then choose to pause the video if they do not want to listen. This change ensures the learner will not miss the video options. The remaining feedback reinforced the team that module addressed the needs, met the objectives, and was fit our target audience.

While the DDS department was included and encouraged to provide formative feedback, our team also wanted to meet face-2-face with the DDS department. During the meeting the DDS staff provided additional feedback and engaged in a discussion of next steps. As a result of the meeting the DDS department provided additional design feedback that the team categorized into two categories: 1.) quick changes that could be made to enhance the presentation and 2.) additional changes the team would need to consider as the group transitions the presentation over to the DDS department. In the coming week the team will make a determination on how to best move forward. Lastly, the DDS department informed us that the faculty survey on perceptions of online teaching that we referred to in our analysis phase is now formally available. At the time the team submitted this paper, we have not received the report so we are unable to comment. Our hope is the information will inform the DDS department on key environmental and faculty perceptions of online teaching and learning on campus.

## References

Adult learning theory and principles. (n.d.). Retrieved from <http://www.qotfc.edu.au/resource/?page=65375>

Educational technology, the ADDIE model. Retrieved from <http://educationaltechnology.net/the-addie-model-instructional-design/>

Morrison, G., Ross, S., Kalman, H., & Kemp, J. (2013). *Designing effective instruction*. (5<sup>th</sup> ed.). Danvers, Massachusetts: Wiley

The University of Akron, Historical Employment Data. Retrieved from [http://ir.uakron.edu/docs/employees/Historical\\_FT\\_Faculty\\_Counts\\_by\\_Campus.pdf](http://ir.uakron.edu/docs/employees/Historical_FT_Faculty_Counts_by_Campus.pdf)

The University of Akron, Student Enrollment Data. Retrieved from <http://www.uakron.edu/ir/>

## **Appendix A**

### Interview questions with SME

1. Can you please provide an overview of the services offered by the Design and Development department at UA?
2. What is the need for this instruction from the perspective of the designers?
3. Who is the target audience?
4. From the perspective DDS, are there any delivery constraints?
5. What is the anticipated size/scope of the project?
6. What has been done to increase awareness of the services your department offers to faculty?
7. What data have you collected from faculty regarding: awareness of the services available, feedback from those that have completed the process and/or participation in the process?
8. From your perspective, why do you think faculty have not used your services exist?
9. Just to clarify, there are three different ways a faculty member can work with Design Services?
10. What other information do you think will be helpful for our project?

## **Appendix B**

Interview questions with faculty alumni who have used DDS services

1. What prompted you to develop an online course or to learn new instructional technologies for your course?
2. What hurdles (if any) did you have to overcome through the development process?
3. What type of feedback have you received from students?
4. Now that you may have your class fully developed, what would you change or do differently?
5. What advice would you share with faculty who are new to online technologies and just beginning to work with DDS?
6. If there anything else you would like to share with faculty who are beginning the process?